Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A multi-mode wireless device on a single substrate, comprising:

an analog portion integrated on the substrate, including:

a radio frequency (RF) front-end ~~adapted~~ to receive an RF signal from an antenna; and

an analog to digital converter (ADC) coupled to the RF front-end to digitize the RF signal; and

a digital portion integrated on the substrate, including:

a reconfigurable logic core coupled to the ADC, the reconfigurable logic core ~~adapted~~ to handle a plurality of wireless communication protocols;

one or more general-purpose processor cores coupled to the reconfigurable logic core; and

a ~~high-density~~ memory array ~~core~~ coupled to the reconfigurable ~~multi-processor~~ logic core.

Claim 2 (currently amended): The wireless device on a single substrate of claim 1, wherein the protocol conforms to one or more of a Global System for Mobile Communications (GSM) protocol, a General Packet Radio Service (GPRS) protocol, an Enhance Data Rates for GSM Evolution (Edge) protocol and an 802.11A protocol.

Claim 3 (currently amended): The wireless device on a single substrate of claim 1, wherein the reconfigurable logic core ~~delivers data in parallel to all~~ is to deliver data in parallel to the one or more general-purpose processor cores.

Claim 4 (currently amended): The wireless device on a single substrate of claim 1, wherein the reconfigurable logic core ~~delivers data in series to the~~ is to deliver data in series to the one or more general-purpose processor cores.

Claim 5 (currently amended): The wireless device on a single substrate of claim 1, further comprising a first-in-first-out (FIFO) positioned between the reconfigurable logic core and ~~each~~ at least one of the one or more general-purpose processor ~~core~~ cores.

Claim 6 (currently amended): The wireless device on a single substrate of claim 1, wherein ~~the~~ at least one of the one or more general-purpose processor ~~core~~ cores includes a multiply-accumulate (MAC) unit.

Claim 7 (currently amended): The wireless device on a single substrate of claim 1, wherein ~~the~~ at least one of the one or more general-purpose processor ~~core~~ cores comprises a reduced instruction set computer (RISC) processor.

Claim 8 (currently amended): The wireless device on a single substrate of claim 1, further comprising a router coupled to the ~~processor, the cellular radio core, and the short-range wireless transceiver core~~ reconfigurable logic core.

Claim 9 (currently amended): The wireless device on a single substrate of claim 8, wherein the router further comprises an engine ~~that tracks~~ to track the ~~destinations~~ destination of packets and send them in parallel through a plurality of separate pathways.

Claim 10 (currently amended): The wireless device on a single substrate of claim 8, wherein the router ~~sends~~ is to send packets in parallel through a primary and a secondary communication channel.

Claim 11 (currently amended): A portable computer system, comprising:

a processor;

~~an input recognizer embodied in said program storage device, said input recognizer adapted to receive input from said user;~~

a multi-mode wireless device on a single substrate coupled to the processor, the device comprising:

an analog portion integrated on the substrate, including:

a cellular radio core having an analog to digital converter (ADC) ~~adapted~~ configured to receive a radio signal from an antenna, and

a short-range wireless transceiver core; and

a digital portion integrated on the substrate, including:

a reconfigurable logic core coupled to the ADC, the reconfigurable logic core ~~adapted~~ configured to handle a plurality of wireless communication protocols;

one or more general-purpose processor cores coupled to the reconfigurable logic core; and

a ~~high-density~~ memory array ~~core~~ coupled to the reconfigurable ~~multi-processor~~ logic core~~;~~

~~a program storage device coupled to said processor;~~

~~and a computer readable code embodied in said program storage device and coupled to said input recognizer for receiving said user input~~.

Claims 12 - 15 (cancel)

Claim 16 (currently amended): The portable computer system of claim 11, wherein the reconfigurable ~~processor~~ logic core includes one or more digital signal processors (DSPs).

Claim 17 (currently amended): The portable computer system of claim 11, wherein the reconfigurable ~~processor~~ logic core includes one or more reduced instruction set computer (RISC) processors.

Claim 18 (currently amended): The portable computer system of claim 11, further comprising a router coupled to the ~~processor~~ reconfigurable logic core, the cellular radio core, and the short-range wireless transceiver core.

Claim 19 (currently amended): The portable computer system of claim 18, wherein the router is to de-correlate ~~de-correlates~~ data.

Claim 20 (currently amended): The portable computer system of claim 18, wherein the router is to de-correlate ~~decorrelates~~ data into parallel streams that are not time-correlated.

Claim 21 (new): The portable computer of claim 11, further comprising an input recognizer embodied in a program storage device, said input recognizer configured to receive input from a user.

Claim 22 (new): The portable computer of claim 11, wherein the reconfigurable logic core comprises a vector processor.

Claim 23 (new): The portable computer of claim 22, wherein the vector processor is configured to provide a parallel data output to the one or more general-purpose processor cores.

Claim 24 (new): The portable computer of claim 11, wherein the digital portion comprises a reconfigurable processor core including the reconfigurable logic core and the one or more general-purpose processor cores.